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ABSTRACT

This study investigated effects of dissonance and positive reinforcement as feedback mechanisms for altering the humanistic behavior of student teachers. The subjects were undergraduate education majors who were enrolled in a student teaching program. The student teachers were observed twice by their pupils using the Tuckman Teacher Feedback Form. Two types of feedback were provided: "actual feedback"--the actual scores recorded by pupils--and "positive feedback"--scores modified to reduce the discrepancy between ideal humanistic behavior and actual student teacher behavior. Actual feedback was intended to evoke dissonance; positive feedback, to reinforce positively. Significant changes occurred for high-dissonance student teachers. Actual feedback produced significantly more change than the control. Dissonance was found to be a more effective motivator for change than positive reinforcement. (Included as an appendix is the Tuckman Teacher Feedback Form.) (Authors)

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The Effectiveness of Feedback for Changing Student Teachers' Humanistic Behavior

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INTRODUCTION

Context of the Problem

Teacher behavior in the classroom is probably the singularly most important aspect of the educational process. It therefore is reasonable that a study of teacher behavior be undertaken at a stage of the teacher's development where patterns of behavior are not firmly established. The student teaching experience provides an opportunity to analyze classroom behavior of the prospective teacher and to attempt to modify it, if needed, in desireable ways before the behaviors become established and difficult to alter. One method utilized to change behavior is feedback to the teacher concerning his behavior. Most studies using feedback are concerned with the pedagogical skills, academic understandings, classroom maintenance, and administrative skills of the teachers but little or no attempt has been made to analyze the humanistic behavior of the teacher as applied to the classroom situation (Tuckman, 1971). In this study the term humanistic behavior refers to the human elements or characteristics which are evident in the relationship between the teacher and his pupils.

This study involves experimental attempts to determine the effect of variable feedback on the student teacher's humanistic behavior in the classroom. The ability to make the student teacher aware of his humanistic behavior in such a manner as to motivate the prospective teacher to change his behavior is of prime importance. Many studies have utilized the theory of dissonance to lead subjects to change their verbal behavior (Tuckman, McCall, Hyman, 1969), opinions (Hovland and Pritzker, 1957; Zimbardo, 1960; Cohen, 1959), and gaming behavior (Festinger, 1957). Likewise, reinforcement motivation has been studied in many experiments to lead subjects to change their learning behavior (Sarason, 1956; Hurluck, 1925; Gates and Rissland, 1923; Spears, 1936; Lazarus and Eriksen, 1952; Ward, 1937). However, none of these studies has been primarily concerned with altering humanistic behavior. It is therefore necessary to determine (1) if humanistic behavior can be changed through feedback and (2) which force, dissonance or positive reinforcement, will cause a greater change in behavior.

Festinger (1957) studied psychological tensions within individuals and and states that "the individual strives for consistency within himself". Festinger hypothesized that one of the motivating properties of dissonance is that the existence of dissonance will make the individual psychologically uncomfortable and therefore the person will attempt to reduce the dissonance and achieve consonance.

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Dissonance exists within an individual when a pair of elements are in opposition. One of these elements is an understanding regarding things the individual knows about himself, his behavior, and his surroundings. The second element is an idea which is discrepant with those understandings. Festinger (1957) says that "two elements are in a dissonant relation if the obverse of one element would follow from the other". For example, if a teacher is observed as being unfair by his pupils and the ideal humanistic behavior is to be fair the teacher, then, according to Festinger, would experience dissonance. The individual may attempt to reduce this dissonance in three ways: the individual may (1) change his behavior to agree with the ideal behavior, (2) he may disregard the discrepant information by downgrading its validity, or (3) he may change his concept of ideal behavior to agree with his own behavior.

Hilgard and Russell (1950) studied the motivation of individuals with regard to positive reinforcement of learning and state that the nature of rewards when administered by a teacher or an experimenter can influence the learner's rate of learning or an individual's behavioral state. Ruch (1959) suggests that when an individual is placed in an experimental situation and learns to make a response which is instrumental in obtaining some goal-directed behavior the responses should be reinforced through reward. Positive reinforcement is defined as an event which increases the probability of recurrence of a response (Skinner, 1938) and is related to dissonance reduction (Lawrence and Festinger, 1962). Positive reinforcement says: "Repeat what you're doing" or "You're heading in the right direction."

The feedback regarding teaching behavior can take different forms. If the type of feedback varies, the degree of dissonance which is aroused may vary. If dissonance can be obtained, it will be a function of the discrepancy between the observed behavior and the ideal behavior. Feedback that creates the greatest discrepancy, thereby causing dissonance, and feedback that positively reinforces behavior, thereby reducing dissonance, are both motivational forces for behavioral change. The function of this study was to (1) determine whether the humanistic behavior of student teachers could be changed through feedback, and (2) determine which force, positive reinforecement or dissonance, caused a greater change in behavior.

Statement of the Problem

The purpose of this study was to investigate the effects of dissonance and positive reinforcement as feedback mechanisms in altering the humanistic behavior of student teachers. The student teachers were made aware of the ideal humanistic behavior of the classroom teacher through the use of an instrument describing humanistic behavior. The student teachers then had their humanistic behavior analyzed by their pupils using the same instrument. Two types of feedback were given to the student teachers.

This research attempted to answer the following questions:

1. Is there a greater change in the humanistic behavior of student teachers receiving feedback than in those not receiving feedback?

2. Is the degree of change in humanistic behavior of student teachers a function of the degree of discrepancy between the ideal humanistic behavior of a teacher and the feedback they receive from their pupils concerning their actual classroom behavior?

3. Will student teachers whose feedback is manipulated to exhibit less discrepancy between actual classroom behavior and ideal humanistic behavior than it actually was (and hence be presumably positively reinforcing) change more or less than student teachers who receive actual (and hence more dissonance-evoking) feedback concerning their humanistic behavior in the classroom?

METHODS

Subjects

The subjects used in this study were thirty-six industrial education majors who were enrolled in the student teaching program at Montclair State College.

Measure of Behavior

The Tuckman Teacher Feedback Form (hereafter referred to as the TTFF) was selected for this study to measure the humanistic behavior of the student teachers. The TTFF contains fifty pairs of adjectives. Each adjective and its approximate opposite describes a human element in behavior, e.g., original-conventional, passionate-controlled. The observer rates the teacher on a semantic differential scale for each of the pairs of adjectives (see Appendix A). The adjective pairs are written in both directions - some have their "positive" end on the left, some on the right to minimize the effects of response set.

The TTFF was originally designed to provide teacher-to-teacher feedback. Since this study was designed for pupil-to-teacher feedback a pilot study was undertaken to: (1) compute factors for the pupil population on the adjective pairs and (2) determine validity of each item in the factor structure. The pupils in the pilot study observed student teachers at the end of the practicum using the TTFF and the Student-Opinion Questionaire (SOQ) developed by Bryan (1963). A modification of the TTFF scoring system was required when the factor analysis showed that high school pupils do not interpret the adjectives of the TTFF in the same factor structure as do their adult counterparts. The factor analysis reduced the original fifty adjective pairs to thirty-three pairs and changed the original four factors to seven factors. Table 1 lists the seven factors along with the inter-item correlations for each factor. The loadings as determined for each factor also demonstrated the internal reliability of each factor within the TTFF.

Because of the difference in factor structures between the adult and pupil judgments, the scoring procedure was also modified. As a result of the adjective pairs being written in both directions the positive and negative

items must be scored separately. The scoring device was termed the Student Feedback Summary Sheet (SFSS; see Appendix B). Due to the possibility of negative scores and different numbers of items possible SFSS totals were calculated into a percentage score using the following formula:

$$\% \text{ score} = 100 - \frac{100}{X_{max} - X_{min}} (X_{max} - X)$$

Where:
X = score obtained from pupil observation on that factor
X_{max} = maximum score obtainable on the TTFF on that factor
X_{min} = minimum score obtainable on the TTFF on that factor

The percentage score obtained from the observations by the pupils of the student teachers were then diagrammed on the Humanistic Teaching Behavior Profile (see Appendix C). The profile was designed as the system to be utilized during the feedback sessions to inform the student teachers of their humanistic behavior as observed by their pupils. The resulting line between points on the Humanistic Teaching Behavior Profile provides the student teacher with a basis with which to evaluate himself.

Validity

The Student-Opinion Questionaire (SOQ) was utilized in the pilot study to determine the validity of the TTFF and the TTFF items. The SOQ was chosen to relate to the TTFF because some of the SOQ catagories attempt to describe behaviors similiar to that of the TTFF and that the SOQ can also be used as a pupil-to-teacher feedback system. The SOQ is also considered to be a measure of teacher "goodness" or effectiveness. A teacher is seen as being effective or ineffective by the score obtained on the SOQ as observed by the pupils. It is assumed that the higher the score, the better the teacher.

In this study the measure of humanistic behavior was correlated to the SOQ in an attempt to determine the extent to which the TTFF related to the goodness and effectiveness of a teacher. Table 1 shows the SOQ correlation coefficients for each of the items of the modified TTFF. An analysis of individual SOQ catagories which exhibited high correlation with the TTFF factors provided a further comparison of factor validity.

Reliability

The Pearson Product Moment correlation was utilized to estimate the reliability of observer consistency. A split-half approach to observer reliability was used to obtain the two variables to determine whether the "halves" of the observers were measuring the same characteristics in a consistent manner. Two sets of scores were obtained by randomly ordering the scores from the pupils of the student teachers for each of the observations on each of the seven factors averaging the even numbered scores (first

TABLE 1

Factor Loadings and Validity

Correlations for TTFF

Factor 1 Aware Involvement	Factor Loading	Validity Correlations With SOQ
Resourceful - Uncertain	.54	.59
Outgoing - Withdrawn	.60	.50
In Control - On The Run	.58	.70
Observant - Preoccupied	.46	.57
Eager - Disdainful	.41	.51
Timid - Adventurous	-.58	-.56
Factor 2 **Warmth and Acceptance**		
Hostile - Amiable	-.55	-.48
Likeable - Aloof	.63	.60
Unfair - Fair	-.46	-.27
Thoughtful - Inconsiderate	.55	.43
Unfriendly - Sociable	-.76	-.49
Conceited - Humble	-.57	-.44
Accepting (People) - Critical	.59	.16
Factor 3 **Forcefulness**		
Capricious - Purposeful	-.56	-.41
Dominant - Submissive	.71	.11
Assertive - Soft Spoken	.79	.27
Easygoing - Demanding	-.70	-.02
Factor 4 **Positive Mood**		
Detached - Empathic	-.47	-.02
Quiet - Bubbly	.56	.52
Stubborn - Accommodating	-.67	-.25
Moody - Cheerful	-.73	-.41
Relaxed - Nervous	.55	.45
Angry - Happy	-.61	-.36
Factor 5 **Openness**		
Impertinent - Polite	-.72	-.27
Cold - Warm	-.64	-.42
Autocratic - Democratic	-.52	-.07
Factor 6 **Innovativeness**		
Passionate - Controlled	-.52	-.31
Initiating - Deferrent	-.56	-.30
Cautious - Experimenting	.71	.18
Factor 7 **Responsiveness**		
Contemplative - Impulsive	.57	.27
Dogmatic - Flexible	-.53	-.18
Indifferent - Responsive	-.53	-.14

NOTE: Negative factors indicate the adjective pairs are written in reverse ("positive" end on the right as opposed to the "positive" end on the left).

variable) and the odd numbered scores (second variable). After calculating the split-half reliability for each of the factors the Spearman-Brown formula was used to determine the whole-factor reliability. The correlations exhibited a high level of observer reliability on all seven factors.

Independent Variable

The independent variable consisted of three levels.

The first level, called ACTUAL FEEDBACK, was the presentation to the student teachers of their scores as actually obtained from their pupils on the TTFF. The purpose of this feedback was to make the student teachers aware of a discrepancy between IDEAL humanistic behavior (a score of 100% on each factor of the TTFF) and their actual classroom humanistic behavior thus creating dissonance within them. This treatment consisted of three observations of the student teacher (assigned randomly) by their pupils using the TTFF. The scores of the TTFF were presented to the student teachers at the feedback sessions.

The second level, called POSITIVE FEEDBACK, was the presentation to the student teacher of scores obtained on the TTFF which had been modified in such a manner as to reduce the degree of discrepancy between the IDEAL humanistic behavior of a teacher and the student teacher's actual classroom behavior thus reducing the student teacher's dissonance and providing positive reinforcement motivation. To systematically reduce the dissonance in an experimentally controlled way the scores on the TTFF, as reported to the student teachers, a 25% reduction in the level of dissonance was created for the first feedback session and a 50% reduction for the second feedback session.

The third level, called NO FEEDBACK, consisted of a control group which received no feedback concerning their scores on the TTFF. The treatment of the control group (assigned randomly) consisted of three observations of the student teachers by their pupils using the TTFF. While the experimental groups received their scores at the feedback sessions (conducted by the researcher), the students in the control group met with the college supervisor of student teachers to discuss activities undertaken during the practicum. No explaination of the study or feedback of the observations was given to the control group.

An additional control was integrated in the experiment by eliminating the RESPONSIVENESS factor as a feedback source for the treatment groups. The purpose of this control was to make a comparison with the other six factors of humanistic behavior. Student teachers who received feedback on the six factors were expected to exhibit a change in behavior in those areas whereas in the RESPONSIVENESS factor little or no change in behavior was expected since no feedback was provided.

Moderator Variable

The moderator variable was a high level of dissonance versus a low level

of dissonance. The student teachers were classified as high or low dissonant based on the degree of discrepancy in scores on the TTFF between the IDEAL humanistic behavior of a teacher and the results of the first observation of the student teacher by his pupils. The student teachers with scoring discrepancies above the median were classified as high dissonant and those below the median as low dissonant. The moderator variable provided a means of examining the effect of dissonance on an ex post facto basis.

Dependent Variable

The dependent variables, the amount of change in humanistic behavior, was measured by means of the TTFF. The humanistic behavioral changes were measured with respect to the type of feedback given to the student teachers and the level of dissonance (high or low) of the student teacher.

Analysis

The data were tested statistically by the used of ten 3 x 2 analyses of variance performed on changes in each of the seven factors used in the TTFF, total score change, and total percentage discrepancy score change. Primary comparisons were between the initial observations and those obtained at the end of the practicum. Additional observations were analyzed between the first observation and the second observation, and between the second and third observations. Where significant effects occurred, the Scheffe' method (Ferguson, 1966) was used to determine which mean values were significantly different.

RESULTS

The following three total change scores were analyzed to determine the effect of feedback on the student teachers. For each effect three score changes were analyzed: third observation minus first observation (3-1), second observation minus first observation (2-1), and third observation minus second observation (3-2).

1. Total score change for factors 1 through 7 indicates the amount of actual score change on all factors of the TTFF between the observations.

2. Total percentage discrepancy score change for factors 1 through 7 indicates the relative amount of discrepancy score (score of the IDEAL teacher minus the student teacher's score as obtained from the pupil observations) change on all factors of the TTFF between observations.

3. Total percentage discrepancy score change for factors 1 through 6 indicates the relative amount of discrepancy score change on factors 1 through 6 of the TTFF between observations. The analysis of the two total percentage discrepancy score changes (1 through 7 vs 1 through 6) shows the effect of factor 7 as a control.

Table 2 indicates the detailed analysis of the mean change between the first and third observations for the feedback conditions and levels of dissonance on total score and total percentage discrepancy score. The comparison of means revealed a significant difference at the .05 level for total score change on factors 1 through 7 between ACTUAL FEEDBACK, mean = 3.6 and NO FEEDBACK, mean = -2.3. Likewise, significant differences at the .05 level were obtained for total percentage discrepancy score change on factors 1 through 7 between ACTUAL FEEDBACK, mean = 8.1 and NO FEEDBACK, mean = -8.2. Table 2 also shows that the HIGH DISSONANCE student teachers changed significantly more than the LOW DISSONANCE student teachers at the .01 level across the three total change scores.

These results reveal that the ACTUAL FEEDBACK condition caused a significantly greater change for the total score than the NO FEEDBACK condition while the POSITIVE FEEDBACK condition failed to produce significantly greater change than the NO FEEDBACK condition. This indicates that ACTUAL FEEDBACK student teachers' behavior was more like the humanistic behavior of the IDEAL teacher after receiving the treatment. The statistical analysis also reveals that HIGH DISSONANCE student teachers changed more than LOW DISSONANCE student teachers to become more like the IDEAL teacher across the seven factors.

Table 3 shows the effects of feedback conditions and levels of dissonance on the score changes between the initial and final observations for factors 1 through 7. Significant effects were obtained for the feedback conditions on AWARE INVOLVEMENT ($F = 3.6$, df 2/30, $p.05$), INNOVATIVENESS ($F = 4.6$, df 2/30, $p .05$), and RESPONSIVENESS ($F = 3.8$, df 2/30, $p .05$). These results indicate that ACTUAL FEEDBACK produced significant change in factors 1 and 7, relative to NO FEEDBACK, and a significant change in factor 6 relative to POSITIVE FEEDBACK. This indicates that ACTUAL FEEDBACK student teachers' behavior was more closely aligned to the humanistic behavior of the IDEAL teacher on those factors after receiving the feedback. The statistical analysis also reveals HIGH DISSONANCE student teachers changed significantly more than LOW DISSONANCE student teachers to become more like the IDEAL teacher on AWARE INVOLVEMENT, WARMTH AND ACCEPTANCE, POSITIVE MOOD, OPENNESS, and RESPONSIVENESS.

DISCUSSION

Total Score Change

Total percentage discrepancy score change indicated the amount of dissonance change between the TTFF scores and the IDEAL teacher between observations. Total score change showed the amount of actual score change on the TTFF between observations. Analysis of the data on total percentage discrepancy score change for factors 1 through 7 revealed the same effects as the data obtained on total score change for factors 1 through 7. The analysis of total percentage discrepancy score change for factors 1 through 6 did not yield significant effects for the feedback conditions in contrast to the analysis of total percentage discrepancy score change for factors 1 through 7 which did. These results indicated that the RESPONSIVENESS factor did not

TABLE 2

Means for Total Score Change (ΔI_T) and Total Percentage Discrepancy Score Change (ΔD_T) Between First Observation and Third Observation by Feedback Condition (A) and Levels of Dissonance (B)

	Total Percentage Discrepancy Score Change (Factors 1-6)				Total Score Change (Factors 1-7)				Total Percentage Discrepancy Score Change (Factors 1-7)			
	Actual	Positive	No		Actual	Positive	No		Actual	Positive	No	
High Dissonance	11.3	4.0	7.8	7.7**	5.8	2.3	2.7	3.6**	13.2	5.5	6.5	8.4**
Low Dissonance	4.3	-18.0	-18.0	-10.6**	1.3	-5.3	-7.3	-3.8**	3.0	-15.7	-22.8	-11.8**
	7.8	-7.0	-5.1		3.6*	-1.5	-2.3*		8.1*	-5.1	-8.2*	

NOTE: Values denote actual mean value changes.

* Significantly different from one another $p < .05$

** Significantly different from one another $p < .01$

TABLE 3

Analysis of Variance for Score Change (ΔX) Between the First Observation and the Third Observation by Feedback Conditions (A) and Levels of Dissonance (B)

		FACTOR													
		1		2		3		4		5		6		7	
SOURCE	df	MS	F	MS	F	MS	F	MS	F	MS	F	MS	F	MS	F
Feedback	2	303.1	3.6*	277.9	1.5	67.4	0.8	92.2	0.6	205.5	1.3	2.0	4.6	324.8	3.8*
Dissonance	1	625.0	7.5*	1320.1	7.2*	28.4	0.3	784.0	5.0*	870.2	5.5*	132.2	1.4	667.4	8.0**
AB	2	28.6	0.3	2.5	0.0	12.7	0.2	225.1	1.4	67.6	0.4	49.8	0.5	74.8	0.8
Error	30	83.6		184.1		83.1		158.0		158.3		91.2		83.6	

*p < .05

**p < .01

function as a control as had been anticipated but produced sufficiently large effects to change the results of the total score analysis.

Actual Feedback

Since behavior change occurred in student teachers receiving ACTUAL FEEDBACK, it may be assumed that sufficient dissonance was present to motivate this change in behavior. That is, ACTUAL FEEDBACK was dissonance arousing as had been predicted. The results indicated that ACTUAL FEEDBACK was the only form of feedback which yielded significant changes. Even in instances where significance was not obtained, the means reflected the tendancy for ACTUAL FEEDBACK to be the most effective treatment.

Positive Feedback

Although a change in humanistic behavior did occur in those student teachers who received POSITIVE FEEDBACK the change was in a direction opposite to that hypothesized. The POSITIVE FEEDBACK which was expected to provide positive reinforcement produced a greater divergence in student teacher behavior from the IDEAL teacher after the feedback.

The reinforcement provided by POSITIVE FEEDBACK was designed to make the student teacher believe that he was approaching the desired goal. Guthrie's (1935) work and others suggested that positive reinforcement may produce drive reduction within the individual. That is, when the student teacher believed that he was achieving the desired goal, his goal-relevant behavior was terminated. Likewise, POSITIVE FEEDBACK was a manipulation of dissonance since it reduced the discrepancy between the student teachers' actual humanistic behavior and the IDEAL behavior. Festinger (1957) states that the greater the discrepancy between two states the greater the change in behavior to reduce the discrepancy. Since POSITIVE FEEDBACK was closer to the behavior of the IDEAL teacher, the student teachers who received POSITIVE FEEDBACK experienced a lower level of dissonance than those receiving ACTUAL FEEDBACK. The combination of low dissonance and positive reinforcement (both of which may produce drive reduction) may explain the post-treatment finding of increased rather than decreased discrepancy in the POSITIVE FEEDBACK condition.

Dissonance Levels

On each measure, HIGH DISSONANCE student teachers changed significantly more than LOW DISSONANCE student teachers to reduce the discrepancy between observed and IDEAL behavior. The results of this study support the theory of dissonance.

Individual Factor Changes

Statistically significant changes in individual factor scores were obtained for five of the seven factors with results indicating that the student teachers behaved more like the IDEAL teacher after receiving the treatment.

Included in significant changes was the RESPONSIVENESS factor. Although this factor was designed to act as a control the results showed that feedback given to the student teachers on the other six factors influenced their behavior on RESPONSIVENESS. This behavioral change suggests the possibility that the RESPONSIVENESS factor may not be as discrete a factor as originally revealed by the factor analysis. The results suggest that the feedback may have had a generalizing effect upon the total humanistic behavior of the student teacher rather than on only the specific factors on which feedback was given.

Although the factors of FORCEFULNESS and INNOVATIVENESS did not show significant changes the numerical trend between the first and the third observations indicated a change in humanistic behavior in the direction of the IDEAL.

Importance of the Study

It is important to note that actual feedback yielded statistically significant changes in humanistic behavior as compared to no feedback while feedback which had been modified to reduce the discrepancy between the humanistic behavior of the student teachers in the classroom and the stated goals did not. It would be of benefit then for the supervisors of student teachers to make the student teacher aware of his behavior by providing him with the results of observations actually obtained from observers and directing that behavior to predetermined goals.

The brevity of the experimental portion of this study showed that student teachers can change their behavior in a relatively short period of time when sufficient dissonance is aroused. This is important for those supervising student teachers because of the limited time of the practicum.

Many systems designed to provide feedback require the use of trained observers and elaborate coding procedures. This study has shown that changes in humanistic behavior can be accomplished in student teachers through a relatively simple observational system utilizing untrained observers (pupils in this case). The supervisors of teachers and pre-service teachers can now obtain positive results in behavorial change through a technique which requires limited time to gather data from the observers while utilizing readily available coders.

REFERENCES

Ryan, R. C. Reactions to teachers by students, parents, and administrators. U.S. Office of Education, Cooperative Research Project No. 668. Kalamazoo: Western Michigan University, 1963.

Cohen, A. R. and Zimbardo, P. G. Dissonance and the need to avoid failure. The Cognitive Control of Motivation, Atlanta: Scott, Foresman and Co., 1969, 8, 250-255.

Ferguson, G. Statistical analysis in psychology and education. New York: McGraw-Hill, 1966.

Festinger, L. A theory of cognitive dissonance. Stanford: Stanford University Press, 1957.

Gates, G. S. and Rissland, L. The effects of encouragement and of discouragement upon performance. Journal of Educational Psychology, 1923, 14, 21-26

Guthrie, E. R. The psychology of learning. New York: Harper, 1935.

Hilgard, E. R. and Russell, D. H. Motivation in school learning. 49th Yearbook of the National Society for The Study of Education, 1950, 49, 36-68.

Hovland, C. I., and Pritzker, H.A. Extent of opinion change as a function of amount of change advocated. Journal of Abnormal and Social Psychology, 1957, 54, 257-261.

Horlock, E. B. An evaluation of certain incentives used in school work. Journal of Educational Psychology, 1925, 16, 145-159.

Lawrence, D.H., and Festinger, L. The psychology of insufficient reward. Stanford, California: Stanford University Press, 1962.

Lazarus, R. S., and Eriksen, C. W. Effects of failure stress upon skilled performance. Journal of Experimental Psychology, 1952, 43, 100-105.

Leeh, F. L. Psychology and life. Atlanta: Scott, Foresman and Co., 1959.

Marason, I. Effect of anxiety, motivational instruction, and failure on serial learning. Journal of Experimental Psychology, 1956, 51, 253-260.

Mowrs, R. R. An experimental test on one phase of nypothecated repression sequence. Psychology Bulletin, 1936, 33, 744.

Skinner, B. F. The behavior of organisms: An experimental analysis. New York: Appleton-Century-Crofts, 1938.

Tuckman, B. W. Changing the behavior of teachers through feedback. An invitational paper presented at the meetings of the National Association of Elementary School Principals, Cleveland, Ohio, 1971.

Tuckman, B. W., McCall, K. and Hyman, R. The modification of teacher behavior: Effects of dissonance and coded feedback. American Educational Research Journal, 1969, 6, 607-619.

Ward, L. B. Reminiscence and rate of learning. Psychology Monogram, 1937, 49, 220.

Zimbardo, P. G. Involvement and communication discrepancy as determinants of opinion conformity. Journal of Abnormal and Social Psychology, 1960, 60 86-93.

APPENDIX A: Tuckman Teacher Feedback Form

Student_____

TUCKMAN TEACHER FEEDBACK FORM

FORM A

On the following pages you will find 50 rating scales similar to the one shown below.

TALL ____ : _____ : _____ : _____ : _____ : _____ : _____ : SHORT

You are to use all 50 scales to rate the teacher that you are observing. If you feel that the adjective tall very accurately describes the teacher, place an X in the space next to tall, as shown below.

TALL __X__ : _____ : _____ : _____ : _____ : _____ : _____ : SHORT

If you feel that the adjective tall is somewhat descriptive of the teacher you are observing, place an X in the second space; if slightly descriptive, place an X in the third space.

If you feel that the adjective short very accurately describes the teacher you are observing, place an X in the space next to short, as shown below.

TALL _____ : _____ : _____ : _____ : _____ : _____ : __X__ : SHORT

If you feel that the adjective short is somewhat descriptive, place an X in the second to the last space; if slightly descriptive, place an X in the third space from the right.

If you feel that either adjective is equally appropriate (or nonappropriate) place an X in the center space.

Do not place X's anywhere but in one of the seven spaces provided. Make only one X on each scale. Do not leave any blank, do not mark any more than once.

This scale will help a teacher become aware of how others see him (her). This form of feedback is essential for self-improvement. Try to be both objective and candid.

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1.	ORIGINAL	_____	_____	_____	_____	_____	_____	_____ : CONVENTIONAL
2.	PASSIONATE	_____	_____	_____	_____	_____	_____	_____ : CONTROLLED
3.	IMPERTINENT	_____	_____	_____	_____	_____	_____	_____ : POLITE
4.	PATIENT	_____	_____	_____	_____	_____	_____	_____ : IMPATIENT
5.	COLD	_____	_____	_____	_____	_____	_____	_____ : WARM
6.	INITIATING	_____	_____	_____	_____	_____	_____	_____ : DEFERMENT
7.	HOSTILE	_____	_____	_____	_____	_____	_____	_____ : AMIABLE
8.	LIKEABLE	_____	_____	_____	_____	_____	_____	_____ : ALOOF
9.	CREATIVE	_____	_____	_____	_____	_____	_____	_____ : ROUTINIZED
10.	INHIBITED	_____	_____	_____	_____	_____	_____	_____ : UNINHIBITED
11.	INCONO-CLASTIC	_____	_____	_____	_____	_____	_____	_____ : RITUALISTIC
12.	GENTLE	_____	_____	_____	_____	_____	_____	_____ : HARSH
13.	UNFAIR	_____	_____	_____	_____	_____	_____	_____ : FAIR
14.	BOUYANT	_____	_____	_____	_____	_____	_____	_____ : LETHARGIC
15.	SHALLOW	_____	_____	_____	_____	_____	_____	_____ : KNOWLEDGEABLE
16.	CAPRICIOUS	_____	_____	_____	_____	_____	_____	_____ : PURPOSEFUL
17.	ENERGETIC	_____	_____	_____	_____	_____	_____	_____ : LIFELESS
18.	CAUTIOUS	_____	_____	_____	_____	_____	_____	_____ : EXPERIMENTING
19.	DISORGANIZED	_____	_____	_____	_____	_____	_____	_____ : ORGANIZED
20.	THOUGHTFUL	_____	_____	_____	_____	_____	_____	_____ : INCONSIDERATE
21.	UNFRIENDLY	_____	_____	_____	_____	_____	_____	_____ : SOCIABLE
22.	RESOURCEFUL	_____	_____	_____	_____	_____	_____	_____ : UNCERTAIN
23.	RESERVED	_____	_____	_____	_____	_____	_____	_____ : OUTSPOKEN
24.	IMAGINATIVE	_____	_____	_____	_____	_____	_____	_____ : EXACTING

25.	SUBTLE	_____	_____	_____	_____	_____	_____	_____	DIRECT
26.	ERRATIC	_____	_____	_____	_____	_____	_____	_____	SYSTEMATIC
27.	AGGRESSIVE	_____	_____	_____	_____	_____	_____	_____	PASSIVE
28.	CONCEITED	_____	_____	_____	_____	_____	_____	_____	HUMBLE
29.	ACCEPTING (people)	_____	_____	_____	_____	_____	_____	_____	CRITICAL
30.	DETACHED	_____	_____	_____	_____	_____	_____	_____	EMPATHIC
31.	QUIET	_____	_____	_____	_____	_____	_____	_____	BUBBLY
32.	AUTOCRATIC	_____	_____	_____	_____	_____	_____	_____	DEMOCRATIC
33.	CONTEMPLA-TIVE	_____	_____	_____	_____	_____	_____	_____	IMPULSIVE
34.	OUTGOING	_____	_____	_____	_____	_____	_____	_____	WITHDRAWN
35.	STUBBORN	_____	_____	_____	_____	_____	_____	_____	ACCOMMODATING
36.	IN CONTROL	_____	_____	_____	_____	_____	_____	_____	ON THE RUN
37.	FLIGHTY	_____	_____	_____	_____	_____	_____	_____	CONSCIENTIOUS
38.	DOMINANT	_____	_____	_____	_____	_____	_____	_____	SUBMISSIVE
39.	MOODY	_____	_____	_____	_____	_____	_____	_____	CHEERFUL
40.	OBSERVANT	_____	_____	_____	_____	_____	_____	_____	PREOCCUPIED
41.	EAGER	_____	_____	_____	_____	_____	_____	_____	DISDAINFUL
42.	INTROVERTED	_____	_____	_____	_____	_____	_____	_____	EXTRAVERTED
43.	RELAXED	_____	_____	_____	_____	_____	_____	_____	NERVOUS
44.	DOGMATIC	_____	_____	_____	_____	_____	_____	_____	FLEXIBLE
45.	ASSERTIVE	_____	_____	_____	_____	_____	_____	_____	SOFT-SPOKEN
46.	EASY GOING	_____	_____	_____	_____	_____	_____	_____	DEMANDING

47. TIMID _____: _____: _____: _____: _____: _____: _____: ADVENTURIOUS

48. ANGRY _____: _____: _____: _____: _____: _____: _____: HAPPY

49. DOMINEERING _____: _____: _____: _____: _____: _____: _____: PERMISSIVE

50. INDIFFERENT _____: _____: _____: _____: _____: _____: _____: RESPONSIVE

Check to make sure that you have not left any scale blank, or have marked more than one X on each scale.

APPENDIX B: Student Feedback Summary Sheet

Teacher Observed _____ Date _____

STUDENT FEEDBACK SUMMARY SHEET

Item Scoring

Original	7	6	5	4	3	2	1	Conventional
Cold	7	6	5	4	3	2	1	Warm

I. Aware Involvement

Item	Item	Item	Item	Item	Item
(22 +	34 +	36 +	40 +	41) -	(47)
(___ +	___ +	___ +	___ +	___) -	( ) = ___

II. Warmth & Acceptance

Item	Item	Item	Item	Item	Item	Item
(8 +	20 +	29) -	(7 +	13 +	21 +	28)
(___ +	___ +	___) -	(___ +	___ +	___ +	___) = ___

III. Forceful

Item	Item	Item	Item
(38 +	45) -	(16 +	46)
(___ +	___) -	(___ +	___) = ___

IV. Positive Mood

Item	Item	Item	Item	Item	Item
(31 +	43) -	(30 +	35 +	39 +	48)
(___ +	___) -	(___ +	___ +	___ +	___) = ___

V. Openness

		Item	Item	Item
(	) -	(3 +	5 +	32)
(	) -	(___ +	___ +	___) = ___

VI. Innovative

Item	Item	Item
(2 +	6) -	(18)
(___ +	___) -	(__) = ___

VII. Responsiveness

Item	Item	Item
(33) -	(44 +	50)
(___) -	(___ +	___) = ___

APPENDIX C: Humanistic Teaching Behavior Profile #1

Student Teacher's Name _____

HUMANISTIC TEACHING BEHAVIOR PROFILE #1

	Aware Involvement	Warmth & Acceptance	Forcefulness	Positive Mood	Openness	Innovative	Responsiveness	Ave.
1st								
2nd								
3rd								